



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,815	02/25/2000	Alfredo Dal Pan	Q-57966	6697

7590

12/23/2002

Sughrue Mion Zinn Macpeak & Seas  
2100 Pennsylvania Avenue N W  
Washington, DC 20037-3202

EXAMINER

KERNS, KEVIN P

ART UNIT

PAPER NUMBER

1725

DATE MAILED: 12/23/2002

14

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/512,815

Applicant(s)

DAL PAN, ALFREDO

Examiner

Kevin P. Kerns

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 17-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-28 is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 18 November 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: adequate description of the newly proposed Figure 4 in the specification is required. Appropriate correction is required.

### ***Claim Objections***

2. Claim 23 is objected to because of the following informalities: in the 3<sup>rd</sup> line of the claim, "itso" should be changed to "it, so". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1725

5. Claims 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edge (US 4,844,142).

Edge discloses a lost foam casting apparatus with a sand depositing mechanism (hopper), in which a series of molds (containers) are arranged around a supporting turntable conveyor with an associated vibratory platform (abstract; column 1, lines 5-9 and 21-30; column 3, lines 57-66; and Figures 1-9). The mold has a pattern P, in which the pattern is flexibly supported within a flask at the proper level by a carrier ring (model gripping means) with a pattern-supporting collar having springs, serving as positioning means for the pattern (column 3, lines 6-25; and Figures 8 and 9). Vertical movement of the containers is enabled by mobile equipment in the form of a hydraulic cylinder cooperating with connecting arms (column 3, lines 26-51; and Figures 1 and 2). The containers are clamped (container gripping means) while on the vibratory platform 46 for positioning the container (column 3, lines 51-55; and Figure 2). The operator of the apparatus will place a channel ring R over the top edge of the mold and flexibly dispose the pattern P it carries into position within the mold (column 6, lines 47-66; column 7, lines 13-21; and Figure 8). One of ordinary skill in the art would have recognized that, while vibrational forces are applied to the container containing the sand and pattern P, both structures are connected by common elements that would allow vibration essentially as a connected single piece. The flexible connection provided between the mold and pattern during the vibratory process is advantageous for preventing distortion and fracturing of the foam pattern, which would otherwise possibly occur if such a connection was rigid (column 7, lines 13-21).

6. Claims 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edge (US 4,844,142) in view of McMellon (US 4,736,787).

Edge discloses or suggests the elements of claims 17 and 21-23 above. Edge does not specifically teach centering elements for accurate positioning of elements in the apparatus, as well as a system that would recognize the status of the components of the system via identification signals.

However, McMellon discloses a lost foam handling system in which a plurality of stations comprised of gondolas on rails individually contains alignment means to position the flask-carrying gondolas relative to the compaction and dump stations, the positioning (alignment) device of which contains clevis-like (fork structure) and tongue-like members with a pivotally connected interlocking pin therebetween (abstract; column 3, lines 10-51; column 5, lines 5-11 and 17-29; and Figures 1-5). A controller that provides position and status signals to operate the conveyor and associated components include a programmable microprocessor to actuate the sequence at each of the plurality of stations (abstract; column 4, lines 48-66; and Figures 1 and 2). These features are advantageous for providing an automated conveyance system for lost foam casting with proper alignment and operation speeds at various stations to allow the system to be tailored to meet the specific needs and resources desired where the controller is installed (column 1, lines 6-15; column 2, lines 54-57; column 4, lines 61-66; and column 5, lines 5-11).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the apparatus of Edge with the lost foam system containing positioning (alignment) means, as well as a programmable microprocessor, both of which are disclosed by McMellon, in order to provide an automated conveyance system for lost foam casting with proper positioning alignment and operation speeds at various stations to allow the system to be tailored to meet the specific needs and resources desired where the controller is installed (McMellon; column 1, lines 6-15; column 2, lines 54-57; column 4, lines 61-66; and column 5, lines 5-11).

### ***Response to Arguments***

7. The examiner acknowledges the applicant's amendment with the associated substitute specification (paper #12) and an additional drawing, Figure 4 (paper #13), both of which were received by the USPTO on November 18, 2002. The examiner approves the substitute specification and new Figure 4. Prior claim objections and claim rejections under 35 USC 112, 2<sup>nd</sup> paragraph, have been overcome by the applicant's amendment. Claims 17-28 remain under consideration in the application.

8. Applicant's arguments filed November 18, 2002 have been fully considered but they are not persuasive.

With regard to the applicant's remarks and arguments on pages 6-9 of the applicant's amendment (paper #12), the examiner respectfully agrees with the

Art Unit: 1725

explanation of the contrasts between the applicant's invention and the Edge reference (rigid versus flexible connections). However, the (apparent) inventive feature of claim 17, namely the last 6 lines of the claim, which refers to the limitation of the models and the container being substantially connected to each other as a single piece during the vibrational motion, fails to patentably distinguish over the Edge reference, as both structures (models and container) are connected by common elements that would allow vibration essentially as a connected single piece. Although the applicant argues (in the 1<sup>st</sup> paragraph of page 9) with regard to the disadvantages of Edge during the "subsequent vibrational step", the examiner respectfully asserts that this argument does not adequately defend and distinguish the claimed apparatus structures set forth at the end of claim 17. In other words, the applicant has not clearly specified which of the claimed apparatus limitations are not disclosed and/or are not obvious in view of the Edge reference. The flexible connection (springs) taught by Edge would advantageously prevent distortion and fracturing of the model (Edge; column 7, lines 13-21), while still remaining in the container and being shaken by the vibrating means as a "single piece". Both "flexible" and "rigid" connections are each capable of maintaining operative connections as a "single piece".

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (703) 305-3472. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-6078 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

KPK  
kpk  
December 17, 2002

  
M. ALEXANDRA ELVE  
PRIMARY EXAMINER